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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/392,208	09/08/1999	WILLIAM CLAYTON SCOFIELD	OXMO-24.721	9767
25883	7590	03/23/2006	EXAMINER	
HOWISON & ARNOTT, L.L.P			BRINEY III, WALTER F	
P.O. BOX 741715			ART UNIT	
DALLAS, TX 75374-1715			PAPER NUMBER	
			2615	

DATE MAILED: 03/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/392,208	Applicant(s) SCOFIELD ET AL.	
	Examiner Walter F. Briney III	Art Unit 2646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15, 17-33, 35-45, 47, 49-54 and 56-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 17-33, 35-45, 47, 49-54 and 56-60 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. **Claims 15, 17-33, 35-45, 47, 49-54 and 56-60 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.**

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, the specification fails to support the claim limitation “repositioning...to maintain constant virtual distances between the listening position and each of the plurality of virtual locations responsive to movement of the listening position” (emphasis added). To provide repositioning responsive to movement as recited, the instant invention would require means for detecting movement, of which none are disclosed explicitly or implicitly.

The drawings fail to illustrate any movement feedback means. Likewise, the specification fails to teach any movement feedback means. In contrast, the applicant notes on page 22, lines 1-5, of the specification that “once the binaural mixing is achieved, the listener now has associated with his position a virtual position to each of the left and right front speakers and left and right rear speakers. Further, this

relationship is not a function of the listener's position within the theater, nor is it a function of the position of the listener's head".

With respect to the binaural mixing console, which is the element used for "repositioning" as recited, the applicant fails to note that the movement of the listening position is the reason or cause for providing "movement effects". See page 22, line 23, through page 23, line 14.

The claimed result of "repositioning... responsive to" is that "the perceived virtual locations of the sound signals do not vary with movement of the listening position," which appears to be provided merely by applying identical right and left signals 54 and 56 to a plurality of headsets, where the headsets prevent crosstalk between the reproduced right and left signals. See figures 3, 4 and 6. However, this does not indicate that a listening position is monitored to provide specific reposition in response thereto. Therefore, the claims contain new matter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 15, 21, 27-30, 32, 33, 39, 47, 51, 54, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu (US Patent 5,524,053) in view of Gehring (US Patent 5,521,981) and further in view of Blauert et al. (US Patent 3,962,543).**

Claims 15, 21, 27-30, 32, 33, 39, 47, 51, 54 and 58 are rejected for at least the same reasons presented in the Non-Final Office Action filed 25 November 2005. In addition, the new claims directed to new matter are treated below.

In the previous rejection, it was shown that it would have been obvious to modify Iwamatsu such that a user listened to sounds over headphones. Further, it was shown that using HRTF's as taught by Gehring to reduce in-head localization was obvious. However, neither Iwamatsu nor Gehring disclose, teach or suggest "repositioning...in response to movement of the listening position." This deficiency is overcome by an obvious modification.

It is noted that head tracking is well known in sound reproduction. For example, Blauert teaches a method and arrangement for controlling acoustical output of earphones in response to rotation of a listener's head. See Abstract. In overcoming several disadvantages corresponding to headphone sound reproduction identified in column 1, lines 25-56, Blauert teaches tracking a user's head and adjusting electrical output characteristics in response thereto. See column 2, lines 11-32; figure 3 and its corresponding description in column 6, lines 3-26. As a result of the head tracking and subsequent processing, the sound sources are anchored in one position, i.e. "such that the perceived virtual locations of the sound signals do not vary with movement of the listening position".

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide head tracking and spatial repositioning as taught by Blauert to overcome the aforesaid disadvantages inherent in headphone sound reproduction.

3. **Claims 31 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu in view of Gehring in view of Blauert and further in view of Begault (US Patent 5,173,944).**

Claims 31 and 45 are rejected for the same reasons presented in the Non-Final Office Action filed 25 November 2005 and the grounds of rejection presented in section 2 of this action.

4. **Claims 18-20, 36-38, 50, and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu in view of Gehring in view of Blauert and further in view of Görike (US Patent 4,158,753).**

Claims 18-20, 36-38, 50 and 57 are rejected for the same reasons presented in the Non-Final Office Action filed 25 November 2005 and the grounds of rejection presented in section 2 of this action.

5. **Claims 17, 22-26, 35, 40-44, 49, 52, 53, 56, 59, and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamatsu in view of Gehring in view of Blauert and further in view of Miyamori et al. (US Patent 5,537,165).**

Claims 17, 22-26, 35, 40-44, 49, 52, 53, 56, 59 and 60 are rejected for the same reasons presented in the Non-Final Office Action filed 25 November 2005 and the grounds of rejection presented in section 2 of this action.

Response to Arguments

Applicant's arguments filed 17 January 2006 with respect to claims 15, 17-33, 45-47, 49-54 and 56-60 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB


SINH TRAN
SUPERVISORY PATENT EXAMINER